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(54) Method and apparatus for determining horizontal conductivity and vertical conductivity of earth formations.

(57) The disclosed technique and apparatus utilizes the different characteristic responses of a plurality of signals from a propagation or induction well logging device to determine the vertical and horizontal resistivity of formations surrounding a borehole. In a disclosed embodiment, a method is set forth for determining the horizontal conductivity and the vertical conductivity of formations surrounding an earth borehole, including the following steps : a) deriving first and second formation conductivity values from measurements taken in the borehole ; b) selecting a horizontal conductivity model value and a vertical conductivity model value ; c) computing error values from the differences between : (i) first and second composite conductivity values computed as a function of the horizontal and vertical conductivity model values, and (ii) the first and second derived formation conductivity values ; d) modifying the horizontal and vertical conductivity model values ; e) repeating steps (c) and (d) until predetermined criteria of the error values are met ; and f) outputting modified horizontal and vertical conductivity model values.

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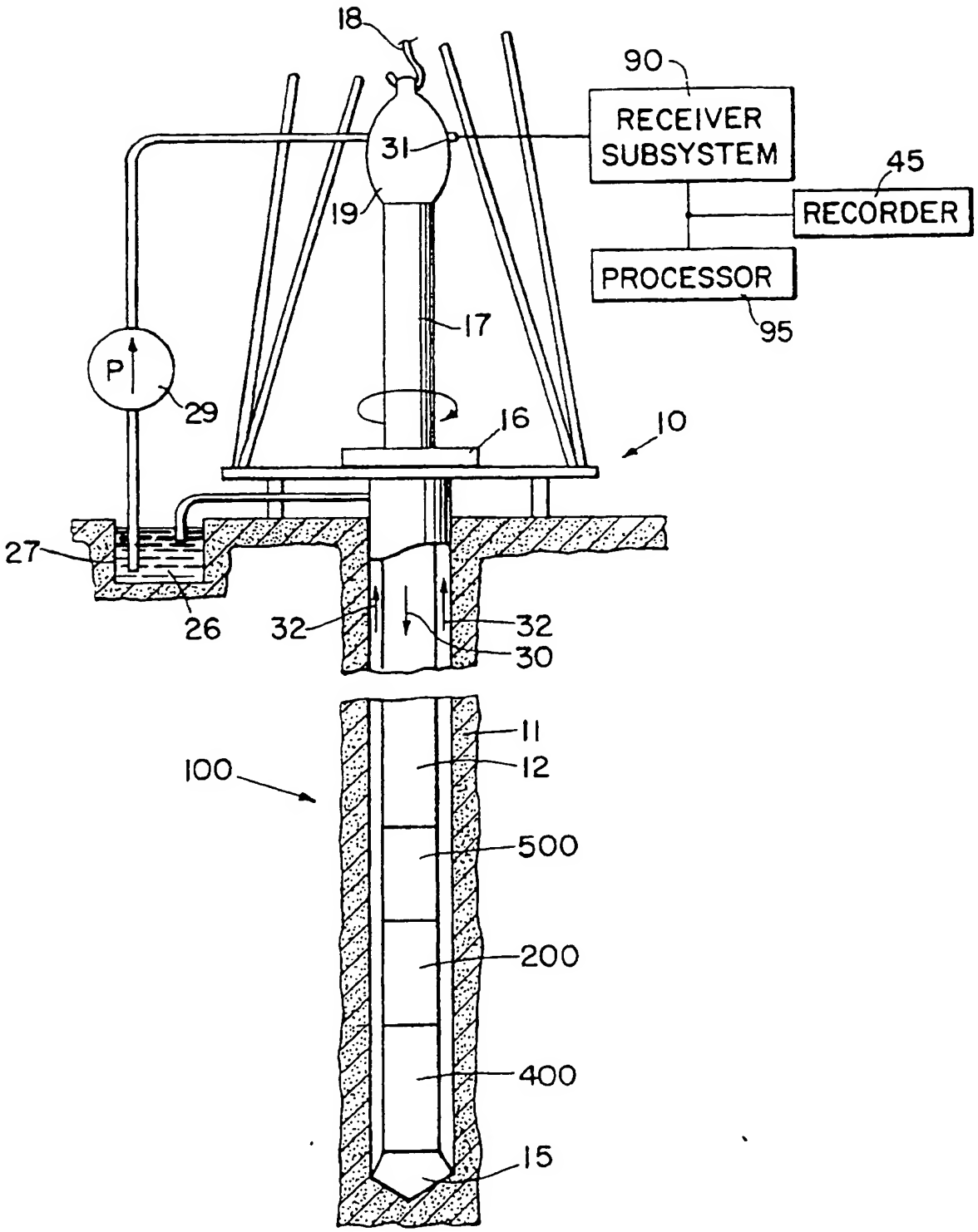
Fig. 1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EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US - A - 4 636 731 (SAVAGE) * Totality *	1,2,3, 9,14, 19,20, 21	G 01 V 3/30 G 01 V 3/12
D,A	US - A - 4 302 723 (MORAN) * Totality *	1,2,3, 9,14, 19,20, 21	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
			G 01 V 3/00

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
VIENNA	24-05-1993	TOMASELLI

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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